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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/831,615	04/29/2003	Bruno Wittwer	19724-87004	5847
7590	12/03/2004		EXAMINER	
David J Simonelli Clark Hill Suite 3500 500 Woodward Avenue Detroit, MI 48226-3435			SAYOC, EMMANUEL	
			ART UNIT	PAPER NUMBER
			3746	
DATE MAILED: 12/03/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/831,615	WITTWER, BRUNO	
<b>Examiner</b>	Emmanuel Sayoc	<b>Art Unit</b>	3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 29 April 2003.  
2a)  This action is **FINAL**.                    2b)  This action is non-final.  
3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 1-20 is/are pending in the application.  
4a) Of the above claim(s) 7-10 and 17-20 is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 1-8 and 11-18 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on 10 May 2001 is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/07/2004.

4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_

5)  Notice of Informal Patent Application (PTO-152)

6)  Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to because the drawings do not show a pump (10), or a plug (48). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The title should refer to at least the principle inventive concept of the claimed invention.

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3. The specification is objected to for containing typos, see page 1 line 9, page 3 lines 1 and 2, page 6 line 1 and 2, page 7 line 2, and page 8 line 2. Applicant is instructed to verify the correctness to the specification.

***Claim Objections***

4. Claims 7-10 are because the recitation of "wh\_rein" is presumed to be -- wherein--.
5. Claims 7-10 and 17-20 are objected to under 37 CFR 1.75(c) as being in improper form because they depend upon multiple dependent claim 4 and 14 respectively. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 1, the limitation "the drive shaft is shaped and configured such that substantially equal volumes of liquid are displaced on initial and return strokes of the drive shaft," is unclear. The displaced volume depends upon the stroke of the piston. The maximum amount of fluid the piston can displace is the same as the amount of fluid that is transported from the inlet side of the piston to the discharge side of the piston.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Mitchell (U.S. 1,756,795).

With respect to claims 1 and 11, Mitchell teaches a piston pump comprising a piston (35, 34, 29) provided in a housing (15). The piston comprises a piston body (29, 35), a valve means (32) provided in the piston body (29, 35), and seal means (by virtue of a clearance seal) provided between the piston body and the housing. A drive shaft (27) is operatively connected to the piston body (29,35). The drive shaft is shaped and configured such that substantially equal volumes of liquid are displaced on initial and return strokes of the drive shaft.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 2-4, and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitchell, as applied to claim 1, and in further view of Hoffman et al.

With respect to claims 2, 3, 12, and 13, and the specific cross-sections of the drive shaft, where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Swain et al.*, 33 CCPA (Patents) 1250, 156 F.2d 239, 70 USPQ 412; *Minnesota Mining and Mfg. Co. v. Coe*, 69 App. D.C. 217, 99 F.2d 986, 38 USPQ 213; *Allen et al. v. Coe*, 77 App. D.C. 324, 135 F.2d 11, 57 USPQ 136.

Mitchell sets forth a device as described above, which is substantially analogous to the claimed invention. The Mitchell device differs from the claimed invention in that there is no explicit teaching of the housing having an outlet provided adjacent a closed end thereof remote from the piston, and the closed end of the housing having an aperture provided therein arranged to receive the drive shaft therethrough, and further seal means provided between the drive shaft and the closed end. Mitchell does not show the details of the pump housing (15) above the piston body (29, 35) section. Hoffmann et al. in Figure 1, teaches a well known housing and drive shaft configuration applied to a well pump. The pump contains a closed housing end (11, 12), with an outlet (15) provided adjacent the closed end. The sucker rod/shaft (5) protrudes out from the cover (12). Therefore it would have been obvious to one of ordinary skill in the art at

time the invention was made to modify the Mitchell device by incorporating the closed housing with the adjacent outlet, as taught by Hoffman et al., in order to seal the pump housing from external elements, and collect the displaced fluid at one common outlet ready for supply. The examiner takes official notice that it was well known in the art at the time the invention was made to use seal means to prevent leakage in the junction of drive shafts, and pump housings.

13. Claims 5-6, and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitchell, as modified by Hoffman et al., as applied to claim 4, and in further view of Beckerer (U.S. 4,301,826).

Mitchell, as modified by Hoffman et al., set forth a device as described above, which is substantially analogous to the claimed invention. The Mitchell, as modified by Hoffman et al., device differs from the claimed invention in that there is no explicit teaching of the shaft being hollow. Within the art the use of hollow shafts was well known for reducing weight in the moving shaft, and also, in certain types of pumps, for allowing fluid to pass therethrough. Beckerer in Figure 2 and 3 teaches a pump with a non-fluid flowing hollow shaft. Therefore it would have been obvious to one of ordinary skill in the art at time the invention was made to modify the Mitchell, as modified by Hoffman et al., device by incorporating the hollow shaft, as taught by Beckerer, in order to reduce weight in the moving shaft. Air filling the hollow shaft constitutes a buoyant substance.

The Mitchell, as modified by Hoffman et al., device differs from the claimed invention in that there is no explicit teaching of the hollow shaft defining a plurality of cavities. In Figure 1 or Hoffman et al., coupling spacers (10) are provided to extend the suction pipe/shaft (5) to extend into the depths of the well. Therefore it would have been obvious to one of ordinary skill

in the art at time the invention was made to modify the Mitchell, as modified by Hoffman et al., device by incorporating the plurality of shafts extensions, as taught by Hoffman et al., in order to extend the pump shaft in applications where the supply fluid is deep within a well or remote location. In such a combination, coupling a plurality of hollow shaft sections would produce a plurality of cavities.

***Conclusion***

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references are cited to further show the state of the art with respect to piston pumps.

U.S. Pat. 2,460,176 to Knott

U.S. Pat. 3,814,553 to Hubschmann

U.S. Pat. 2,160,811 to Adams

U.S. Pat. 3,184,124 to Beck

U.S. Pat. 2,797,642 to Bloudoff

U.S. Pat. 2,465,600 to Munk

***Contact Information***

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel Sayoc whose telephone number is (703) 305-0054 till 11/15/2004, and (571) 272-4832 after 11/15/2004. The examiner can normally be reached on M-F 8 A.M. - 6 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Emmanuel Sayoc  
Examiner  
Art Unit 3746



CHERYL J. TYLER  
PRIMARY EXAMINER

*ECS*